

29. (Amended) A microperforation system for making microperforations in a registered target area of packaging material, comprising:
a polymeric web;
a laser mounted over said web;
a sensor to identify said target area on said packaging material;
a laser controller to drill said microperforations in said target area; and
a processor coupled to said laser controller and said sensor, said processor performing calculations, wherein said calculations control a fresh produce package atmosphere within specified O₂ and CO₂ concentrations and wherein said calculations determine an optimal number and size of said microperforations of said target area.
30. The microperforation system according to claim 29, wherein said laser is a CO₂ laser.
31. The microperforation system according to claim 29, wherein said sensor is selected from the group comprising a through-beam photoelectric sensor, a photoelectric proximity sensor, and a timer.
32. The microperforation system according to claim 29, wherein said laser is triggered to drill holes in said target area wherein said target area is identified by said sensor.
33. The microperforation system according to claim 29, wherein said web is moving and said laser is stationary.
34. ~~The microperforation system according to claim 29, further comprising a means for computing an optimal number and size of said microperforations.~~
35. The microperforation system according to claim 29, further comprising a means for computing an optimal number of said microperforations to control package moisture vapor transmission rates while maintaining said O₂ and CO₂ concentrations.

36. The microperforation system according to claim 29, wherein said web is stationary and said laser is moving.
37. The microperforation system according to claims 36, wherein said laser comprises a two-axis beam scanner mounted over said web.